



**Electro-Voice®**  
a gulton company

## Model TR420 Dynamic Cardioid Microphone

### SPECIFICATIONS

**Element:**  
Dynamic

**Frequency Response:**  
60 – 13,000 Hz (see Figure 2)

**Polar Pattern:**  
Cardioid (see Figure 3)

**Impedance:**  
300 ohm, balanced

**Output Level:**  
–59 dB  
(0 dB = 1 mW/10 dynes/cm<sup>2</sup>)

**EIA Sensitivity Rating:**  
–154 dB

**Diaphragm:**  
Acoustalloy®

**Case:**  
Zinc die cast

**Finish:**  
Armourmatte

**Dimensions:**  
157.2 mm (6.19 in.) long  
50.0 mm (1.97 in.) largest diameter

**Weight:**  
226.8 g (8 oz)

**Accessory Included:**  
358 stand adapter  
458 zippered protective vinyl carrying pouch

**Optional Accessories:**  
351 grey windscreen  
379 color coded windscreens  
541 – 25 ft professional cable with A3F type connector at mike end  
542 – 25 ft professional cable with A3F & A3M type connectors  
543 – 25 ft professional cable with switch connector at mike end  
544 – 50 ft professional cable with A3F & A3M type connectors

### DESCRIPTION & APPLICATIONS

The Electro-Voice Model TR420 features high output level while providing a smooth frequency response and excellent gain-before-feedback characteristics. The Model TR420 is a Single-D cardioid microphone which emphasizes low frequencies when used "close up." Perfect for the exacting needs of high quality sound reinforcement, public address, and other applications, the TR420 is ruggedly designed and attractively styled. The TR420 uses the broadcast standard three-pin type connector.

A new head design provides exceptionally wide, linear response for high gain-before-feedback in sound reinforcement applications. The head subassembly is user replaceable. As part of this assembly an extremely effective shock absorber isolates the transducer assembly from mechanical noises. An internal Acoustifoam™ filter allows close talking without excessive "P-popping" and prevents dirt and magnetic particles from accumulating on the diaphragm.

#### Using The Variable Low-Frequency Response:

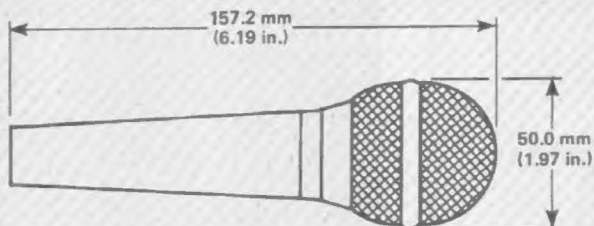
The TR420 low-frequency response varies with the distance from the sound to the microphone as shown in the response curve (Figure 2). Maximum bass response is produced in close-up use with the microphone 1/4 inch from the sound source (Figure 2A). Minimum

bass response is experienced at distances greater than 24 inch (Fig. 2C).

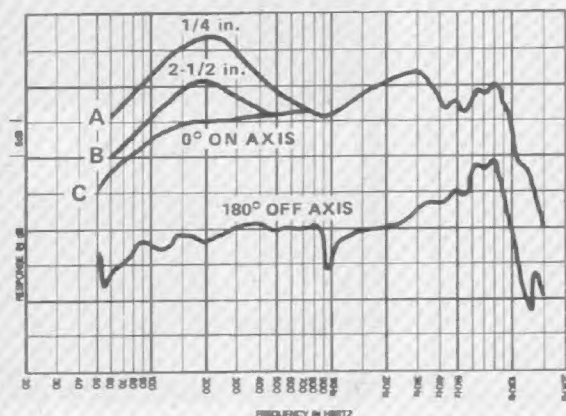
Useful special effects can be created by an imaginative application of the variable low-frequency response:

1. By working closer to the microphone, the human voice will sound more robust, although intelligibility may be adversely affected.
2. Feedback in a public address system is sustained by reflection of sound into the microphone. For all microphones, as the artist moves closer, the level of his voice (at the microphone) increases and the microphone's signal to the amplifier is increased. For a constant volume of sound from the system, the amplifier gain setting must be proportionately reduced. This results in a reduction of the system's sensitivity to reflected sound, hence a reduction of the tendency to feedback.

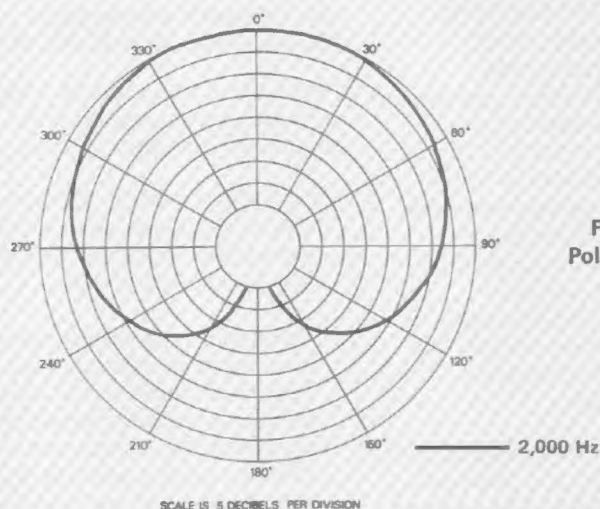
The variable low-frequency response provides a further feedback reducing advantage in close talking applications. At 1/4 inch low-frequency response is greatly enhanced, while response to distant sound (as from sound system loudspeakers) is unaffected. The result is a reduced tendency to feedback, over and above that provided by the cardioid directional characteristic alone.



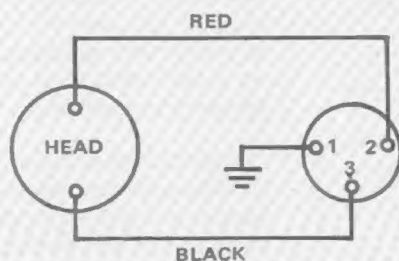
**FIGURE 1**  
Dimensions



**FIGURE 2**  
Frequency Response



**FIGURE 3**  
Polar Response



**FIGURE 4**  
Wiring Diagram, Lo-Z

In short, system sensitivity reduction because of close working, added to the advantage resulting from the bass boosting low-frequency characteristic of the TR420, makes this instrument an exceptionally effective tool for stage and nightclub use.

3. For musical pickup, the variable bass response can be utilized to achieve "clean" bass pickup at distances of 24 inches or more. By moving the TR420 to a few inches from the instrument, bass will be increased.

#### WARRANTY (Limited) —

Electro-Voice TR Microphones are guaranteed unconditionally against malfunction from any cause for a period of two years from date of original purchase. If such malfunction occurs microphone will be repaired or replaced (at our option) without charge for materials or labor if delivered prepaid to the proper Electro-Voice service facility. Unit will be returned prepaid. Warranty does not cover finish, appearance items, cable, cable connectors, or switches. Repair by other than Electro-Voice or its authorized service agencies will void this guarantee.

For repair information and service locations, please write: Service Dept., Electro-Voice, Inc., 600 Cecil Street, Buchanan, Michigan 49107 (Phone: 616/695-6831) or Electro-Voice West, 8234 Doe Avenue, P.O. Box 3297, Visalia, CA 93277 (Phone: 209/651-7777).

Electro-Voice also maintains complete facilities for non-warranty service of EV products.

Specifications subject to change without notice.